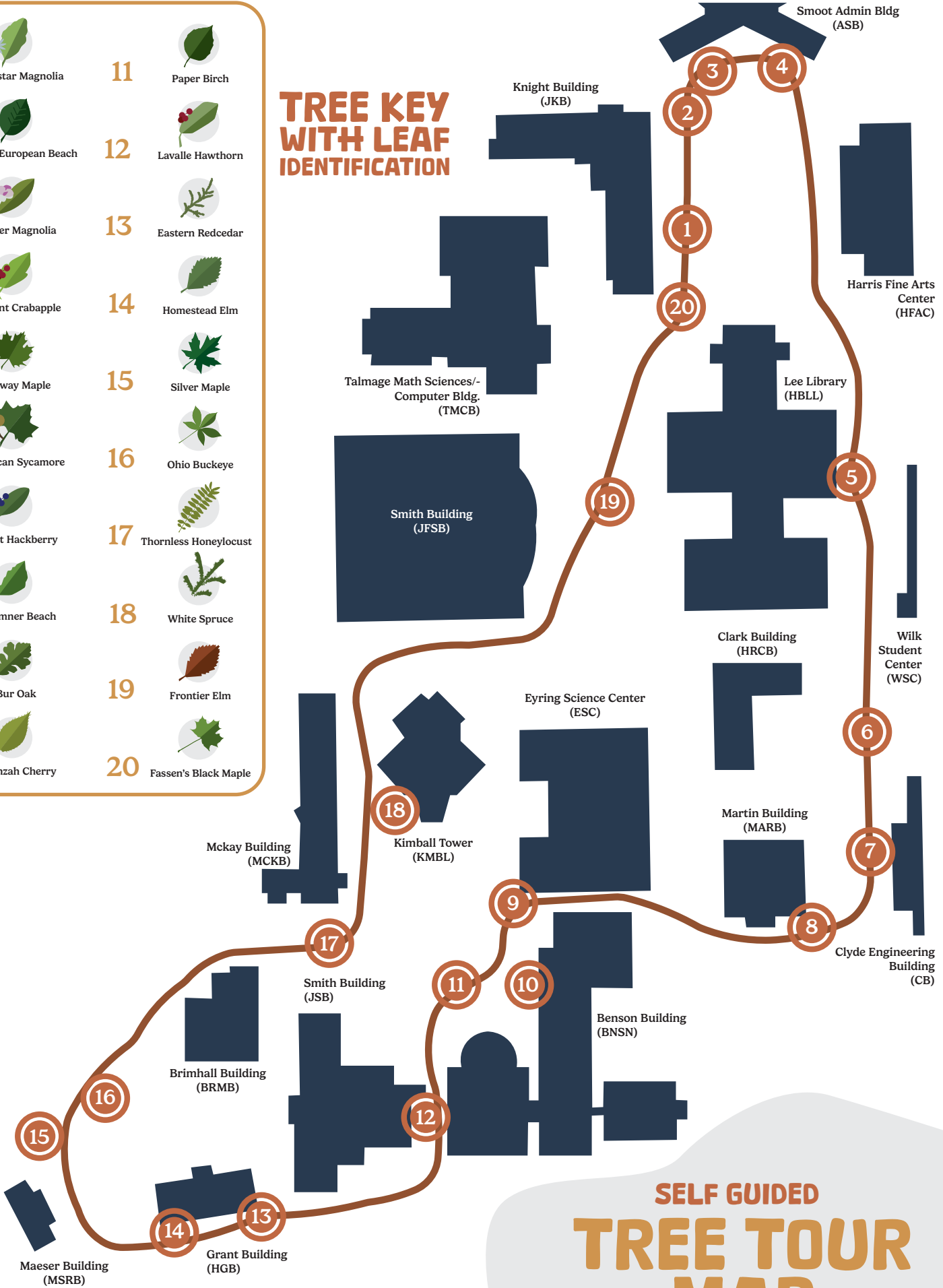


1	 Whitestar Magnolia	11	 Paper Birch
2	 Weeping European Beach	12	 Lavalle Hawthorn
3	 Saucer Magnolia	13	 Eastern Redcedar
4	 Sargent Crabapple	14	 Homestead Elm
5	 Norway Maple	15	 Silver Maple
6	 American Sycamore	16	 Ohio Buckeye
7	 Sweet Hackberry	17	 Thornless Honeylocust
8	 Columner Beach	18	 White Spruce
9	 Bur Oak	19	 Frontier Elm
10	 Kwanzah Cherry	20	 Fassen's Black Maple

TREE KEY WITH LEAF IDENTIFICATION



SELF GUIDED TREE TOUR MAP

LANDSCAPING TIPS:

Find more tree care information at treetour.byu.edu/Trees

You can test your soil for pH, composition, salinity, and nutrients by sending in a sample to BYU. Learn more at pws.byu.edu/eal/sample-submission

Utah's hardiness zones range from 3 to 9. Check your zone at planthardiness.ars.usda.gov

Utah soils are generally slightly alkaline with an average pH of 8.0. It's easier and more cost effective to choose plants suited to your soil's pH than to try changing it

Saplings establish better over time than mature trees. Slow-growing trees are sturdier and generally less susceptible to breakage than fast-growing ones.

Consider the tree's mature size when planting so your trees don't become a hazard for your home or neighborhood.

PEST AND DISEASE CARE:

Aphids

Prevention:

- Apply dormant oil in late winter to suppress the aphid population.
- Encourage natural predators such as ladybugs, green lacewings, and others.
- Avoid spraying if biological predators are developing.

Treatment:

- Use a Merit drench in early spring (March/April) for season-long control. One 1.6-oz soluble packet treats 24-48 inches of cumulative trunk diameter.
- Other options: spray oils, soaps, malathion, diazinon, or acephate (Orthene).

Other Info:

- High aphid populations produce honeydew, a sticky sap that can drip onto cars or sidewalks and cause difficult-to-clean damage.
- Symptoms: twisted, curled leaves, and black sooty mold on leaves and branches.

Bronze Birch Borer (*Agrilus anxius*)

Prevention:

- Keep trees healthy by planting in ideal conditions, watering, and fertilizing adequately.
- Prune dead wood.

Treatment:

- Apply lindane or dursban to trunks and limbs in mid-May when beetles emerge.

Other Info:

- Native to North America. Larvae overwinter, and adults emerge in summer, leaving a D-shaped hole in the tree (a key identifying feature).
- Larvae attack weakened trees, not healthy ones.
- Symptoms: chlorotic leaves, sparse foliage, twig dieback, trunk swelling due to girdling.

Dutch Elm Disease (*Ceratocystis ulmi*)

Prevention:

- Deny elm bark beetles breeding sites by detecting, removing, and destroying (or burying) all dying or recently dead elm wood.
- Plant resistant varieties.

Treatment:

- Use the fungicide propiconazole (Kestrel) as a flare root-injected material, but this should be done by a professional.
- Remove dead wood, logs, and ensure sanitary conditions.

- Girdle trees 2 inches deep and trench between trees to remove root grafts to halt disease spread.

Other Info:

- Native and European elm bark beetles spread the disease. They breed in dying or recently dead elm wood to do so.
- Symptoms: yellowing foliage, dead branches, fungal disease signs, and bark beetles present when damage is noticed.

Fire Blight (*Erwinia amylovora*)

Prevention:

- Plant resistant varieties.
- Prune blighted material at least eight inches below the infected tissue, preferably in late winter during cold weather. Disinfect pruning tools between cuts.
- Avoid over-fertilizing.

Treatment:

- If conditions are favorable (extended warm, wet weather during bloom), spray with agrimycin, fixed copper, or streptomycin.
- Prune out affected tissue.

Other Info:

- Affects only members of the Roseaceae family. The disease is transmitted by insects, splashing rain, and contaminated pruning tools. The bacterium enters the flower when temperatures are warm enough during the blooming period.
- Symptoms: blackened blossoms, fruitlets, spurs, leafy shoots, and cankers causing dieback.

Honeylocust Pod Gall Midge

Treatment:

- If numbers become too high, use one or more applications of Merit.

Other Info:

- The primary symptoms of honey locust pod gall midge is leaf deformation; specifically when affected leaflets become globular or pod-like. Inside are found several small, whitish larvae about 6mm long. When mature, these larvae will become small flies (midges) about 3 mm long. Males are black, while the females are black with red abdomens. They first emerge with new growth in spring, when females lay eggs on new growth, but can reproduce several times during a year. Larvae hatch a day or two after the eggs are laid; they quickly begin to feed, which causes the leaf to curl back into a pod, repeating the cycle again. The midge infestation may cause death of small branches, but does not generally kill the tree. However, because of the decrease in the aesthetic qualities of the trees, this midge is decidedly undesirable.

Leaf Miners

Treatment:

- Spray with Avid at the onset of damage.

Other Info:

- Symptoms: browning leaves and visible tunnels in leaves when held up to the light.
- Typically causes only cosmetic damage; treatment is rarely necessary unless damage is severe.

Mites (Eriophyidae family)

Treatment:

- Use miticides like Avid, Floramite, or Hexygon. Rotate miticides between applications to avoid resistance. Never use the same miticide consecutively.

Other Info:

- Combining miticides with chelated products helps damaged leaves recover faster.

Slime Flux (Bacterial Wetwood)

Treatment:

- No controls exist. However, draining the bacterial liquid from the wound using plastic drain tubes can reduce slime flux.

Other Info:

- The bacterial liquid originates from tree wounds and runs down trunks and branches, emitting a sour odor. It discolors the bark and heartwood. In some cases, leaves may wilt and die back, but slime flux is primarily an aesthetic issue.

Spider Mites (Tetranychidae family)

Prevention:

- Keep trees clean and control weeds around plants.

Treatment:

- Use miticides like Avid. Kelthane or Vendex can also kill mites but harm their natural predators.
- Other options: dormant oil, summer oil, or soap sprays.

Other Info:

- Spider mites thrive in hot, dry weather (common in Provo during summer). They are tiny and hard to see; magnification may be required for identification.

Symptoms: brown foliage, spider-like webbing between branches.

Thronectria Canker

Prevention:

Maintain tree health, employ proper pruning techniques, and remove severely infected trees.

Treatment:

- There is no chemical control.

Other Info:

- Symptoms include large or small sunken cankers on the trunk or branches, which, if they girdle the branch/trunk, will lead to dieback and wilting farther up the stem, and excessive gumming. The cankers are usually orange-brown at first, but then turn to a bright yellow-orange color. The cankers are often associated with pruning wounds and/or sunscald.

Woolly Beech Leaf Aphid (Phyllaphis fagi)

Prevention:

- Apply dormant oil in late winter.

Treatment:

- Use a Merit drench in early spring (March/April) for season-long control. One 1.6-oz soluble packet treats 24-48 inches of cumulative trunk diameter.

Other Info:

- Only affects beech trees. Though populations can be high, they rarely cause long-term damage.
- Honeydew production is a problem in ornamental landscapes.

Verticillium Wilt (Verticillium dahliae)

Prevention:

- Plant resistant varieties.

Treatment:

- There is no cure. However, applying nitrogen fertilizer and ensuring adequate water can promote new xylem growth.

Symptoms: discolored vascular tissue underneath bark, curled and dried leaves, abnormal red or yellow leaf color, wilting, dieback, defoliation, and death. Wood may also discolor. This can happen to a single branch's growth or the entire tree. Symptoms typically appear from early summer to fall.

1



WHITESTAR MAGNOLIA

The Star magnolia is a cold-hardy plant with showy white flowers in spring before the leaves appear. It tolerates some shade and higher pH soils. Medium-green, fuzzy leaves turn yellow-bronze in fall. It can be grown as a small tree or large shrub with multiple trunks

ZONE: 4-9

HEIGHT: 15-20 Feet

WIDTH: 10-15 Feet

TREE CARE CONSIDERATIONS:

Iron Chlorosis is a common issue for this tree. This tree benefits from protection from winter wind.



2



WEeping EUROPEAN BEECH

This slow-growing, weeping beech tree is valued for its fairy-tale appearance, with branches cascading downwards. It has dark green, shiny leaves that turn purplish-brown in fall and is one of the last trees to leaf out in spring. Thrives in full sun with well-drained, moist soil, and adapts to clay soils.

ZONE: 4-7

HEIGHT: 30-50 Feet

WIDTH: 30-60 Feet

TREE CARE CONSIDERATIONS:

Wooly beech leaf aphids are the largest issue when caring for this tree.



3



SAUCER MAGNOLIA

This small deciduous tree from Asia produces large, showy pinkish or purplish-white blossoms in early spring. Its medium-green leaves, broadest at the tip with a fuzzy underside, turn yellow-brown in fall. It thrives in full sun to part shade and prefers moist, rich, slightly acidic soil.

ZONE: 4-9

HEIGHT: 20-30 Feet

WIDTH: Varies

TREE CARE CONSIDERATIONS:

Aphids are the most common pest for this tree. This tree is prone to cold injury during extreme winters.



4



SARGENT CRABAPPLE

This small ornamental tree features red blossoms that open to white flowers in spring, followed by red fruit enjoyed by birds. It has bright green, serrated leaves and a striking winter form. Prefers full sun and moist, well-drained soil but adapts to varying soil pH.

ZONE: 3-7

HEIGHT: 8 Feet

WIDTH: 12 Feet

TREE CARE CONSIDERATIONS:

Iron chlorosis is a common issue, and it's important to use an iron treatment that also contains manganese. Aphids and mites are common pests. This tree generally grows twice as wide as it is tall.



5



NORWAY MAPLE

This common shade tree comes in numerous forms and colors, well-suited to city conditions. It features small yellow-green flowers before dark green leaves and exudes a white milky sap from broken petioles. With shallow roots that can disrupt lawns and sidewalks, it offers dense summer shade and adapts to various soil conditions and pH levels.

ZONE: 3-8

HEIGHT: 50 Feet

WIDTH: 35 Feet



TREE CARE CONSIDERATIONS:

Sun scald is especially dangerous for new saplings. Roots grow close to the surface and can disrupt lawns and sidewalks. These trees are prone to verticillium wilt, and aphid and spider mite infestations.

6



AMERICAN SYCAMORE

American sycamore can be identified by its single fuzzball fruits, zigzagging twigs, and broader middle leaf lobe compared to the London plane tree. Its mottled bark peels off in thin layers, and it usually produces fruit individually. It's a stately shade tree with impressive winter bark interest but may drop leaves and fruit frequently. Fruitless varieties are recommended to reduce mess. It thrives in full sun to light shade and adapts to well-drained soils.

ZONE: 4-9

HEIGHT: 80-100 Feet

WIDTH: 40-50 Feet



TREE CARE CONSIDERATIONS:

Roots tend to break sidewalks. The American Sycamore is much more susceptible to Anthracnose disease, which can destroy the first leaves to emerge in Spring, causing significant twig dieback. The width of this tree can equal its height.

7



SWEET HACKBERRY

Also known as sugarberry, this tree produces sweet orange-red fruit enjoyed by birds. It has bright green, narrow leaves that turn yellow in fall. Fast-growing, it needs careful pruning to ensure a good structure. It performs well as a street or lawn tree, thriving in full sun to partial shade and adaptable to various soils.

ZONE: 5-9

HEIGHT: 55 Feet

WIDTH: 45 Feet



TREE CARE CONSIDERATIONS:

This tree can be hard to find at nurseries.

8



COLUMNAR BEECH

This European beech cultivar features upright branching and smooth, silvery-gray bark. Its dark green leaves are broadly elliptic with silky hairs on the veins and margins. Ideal for lining paths or in groups, it thrives in full sun to full shade and well-drained soil but struggles with soil compaction.

ZONE: 4-7

HEIGHT: 60 Feet

WIDTH: 25 Feet



TREE CARE CONSIDERATIONS:

Sunscald on the trunk can weaken the tree, and it's susceptible to wooly beech leaf aphids.

9



BUR OAK

This large, spreading tree features corky winged branches and large acorns with fringed caps, which children enjoy collecting. It's a great shade tree for parks and open areas, handling urban pollution and drought well. Its fire-resistant bark and deeply lobed dark-green leaves add to its appeal.

ZONE: 3-8

HEIGHT: 65 Feet

WIDTH: 55 Feet



TREE CARE CONSIDERATIONS:

Spider mites are a common pest for this tree, and its acorns can be messy.

10



KWANZAN CHERRY

This small, elegant tree is renowned for its double-petal pink flowers that appear before the leaves in spring, and its brilliant orange-bronze autumn foliage. It grows rapidly into a spreading vase shape with adequate moisture and well-drained soil. Best known for its striking spring blossoms and fall color, it is fruitless and features heavily lenticelled bark. It thrives in full sun to partial shade and adapts to various soil pH levels.

ZONE: 5-8

HEIGHT: 20 Feet

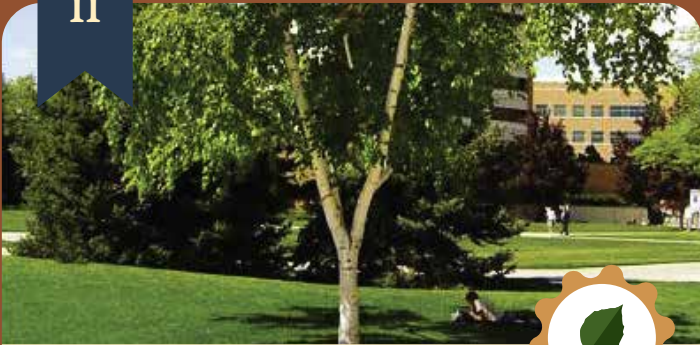
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TREE CARE CONSIDERATIONS:

Sunscauld on the trunk can weaken the tree. This tree is commonly affected by aphids and may reach 30-40' high if not dwarfed.

11



PAPER BIRCH

This pyramidal tree features thin, chalky white bark that peels in tatters, creating a striking appearance. It thrives in full sun to partial shade and needs moderate irrigation. Best in groups or with evergreens, it produces brown to reddish male flowers and green, hanging female catkins. Prefers well-drained, acidic soil but tolerates slightly alkaline conditions.

ZONE: 2-6

HEIGHT: 40 Feet

WIDTH: 30 Feet



TREE CARE CONSIDERATIONS:

This tree is susceptible to Leaf Miners and Bronze Birch Borers. This tree is more susceptible to these pests when it doesn't get enough humidity or gets too much heat.

12



LAVALLE HAWTHORN

This tree, known for its bright orange-red fruits, attracts birds that may appear slightly intoxicated as the fruit ferments in winter. It has glossy, dark green leaves that turn bronze in fall and showy white flowers in late spring. Ideal for full sun, it thrives in well-drained, dry soil and is suitable for hedges or group plantings.

ZONE: 4-7

HEIGHT: 20 Feet

WIDTH: 15 Feet



TREE CARE CONSIDERATIONS:

This tree has very long thorns, almost 4" long sometimes, and is susceptible to Fire Blight and Aphids.

13



EASTERN REDCEDAR

Often mistaken for a cedar, this columnar juniper features green to blue-green scale-like leaves and a strong fragrance. It's ideal for low-maintenance uses like windbreaks, hedges, and topiary. This slow-growing, evergreen tree thrives in full sun, tolerates shade when young, and prefers well-drained soil.

ZONE: 2-9

HEIGHT: 40 Feet

WIDTH: 8-20 Feet



TREE CARE CONSIDERATIONS:

This tree is typically resistant to most insects and disease but is easily susceptible to root rot as a result of overwatering. If it does get a pest, it's generally Spider Mites.

14



HOMESTEAD ELM

This hybrid elm, developed for Dutch elm disease resistance, resembles the Siberian elm with its fast growth and seed litter. It's somewhat brittle and lacks the American elm's elegance but can thrive as a shade tree in open or urban spaces, adapting well to harsh conditions and varying light levels.

ZONE: 5-7

HEIGHT: 55 Feet

WIDTH: 35 Feet



TREE CARE CONSIDERATIONS:

Smaller limbs are prone to breakage and falling. Dutch Elm disease is still somewhat a problem, but not as much as for Dutch Elms. Slime flux is a common disease and it leaves the tree very smelly but isn't very harmful to the tree.

15



SILVER MAPLE

This fast-growing tree features silver-colored leaf undersides and produces red flowers in early spring, along with large samaras. Though it thrives in poor soils and provides quick shade, it suffers from iron chlorosis in alkaline soils and is prone to limb breakage. This makes it less suitable for residential areas.

ZONE: 3-9

HEIGHT: 50-70 Feet

WIDTH: 25-45 Feet



TREE CARE CONSIDERATIONS:

Branches are prone to breakage and falling, and this tree is susceptible to iron chlorosis.

16



OHIO BUCKEYE

This tree is one of the first to leaf out in spring, producing pale greenish-yellow flowers in mid-spring. Its bright green leaves turn orange, red, and yellow before falling early in autumn. With an upright, oval shape, it suits parks and large residential lots. Prefers full sun to partial shade and thrives in acidic soil.

ZONE: 4-7

HEIGHT: 50 Feet

WIDTH: 30 Feet



TREE CARE CONSIDERATIONS:

This tree is susceptible to aphids and leaf scorch.

17



THORNLESS HONEY LOCUST

The rapidly growing Honeylocust tree, which is very common in Utah, thrives in harsh climates and soils with minimal care. Its medium green leaves turn pale yellow in fall, and its purple-brown pods (12-18") persist through winter. It tolerates salty soil, air pollution, and casts light, lawn-friendly shade.

ZONE: 4-9

HEIGHT: 30-70 Feet

WIDTH: 30-70 Feet

TREE CARE CONSIDERATIONS:

This tree is susceptible to the Honeylocust Pod Gall Midge, *Thyronec-tria* Cankers, and Mites, and sometimes Woolly Aphids.



18



WHITE SPRUCE

This spruce is recognized by its sharp needles, which emit a skunk-like odor when crushed. Its branches droop at the ends, contrasting with the upward branches of Blue Spruce. Adaptable and tolerant of wind, drought, and various soil conditions, it works well as a screen, windbreak, specimen tree, or in group plantings.

ZONE: 2-6

HEIGHT: 65 Feet

WIDTH: 15 Feet

TREE CARE CONSIDERATIONS:

Spider Mites are a common pest for this tree.



19



FRONTIER ELM

This hybrid elm features small leaves that turn a vibrant red-purple in fall, a rare trait among elms. Highly tolerant to Dutch elm disease, it's perfect for residential landscapes, streets, and under power lines. It thrives in full sun and adapts to a variety of soil conditions, performing best in moist, well-drained soil.

ZONE: 5-9

HEIGHT: 30 Feet

WIDTH: 15 Feet

TREE CARE CONSIDERATIONS:

This is an elm that is highly resistant to the Dutch Elm Disease! However, it can be susceptible to storm damage.



20



FASSENS BLACK MAPLE

Fassen's Black is a striking Norway maple cultivar, known for its deep purplish-red leaves and unique upward-curling edges. Its leaves exude a characteristic milky sap when picked. Ideal as a focal point, it thrives in full sun and adapts well to various soil types, providing dense shade and visual interest.

ZONE: 3-8

HEIGHT: 40-60 Feet

WIDTH: 25-40 Feet

TREE CARE CONSIDERATIONS:

Roots tend to grow close to the surface and may disrupt lawns and sidewalks. Leaves will scorch in summer sun. Verticillium wilt and aphids are the main problems observed on campus.

